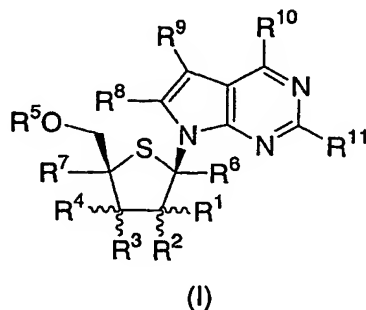


WHAT IS CLAIMED IS:

1. A compound of the structural formula I:

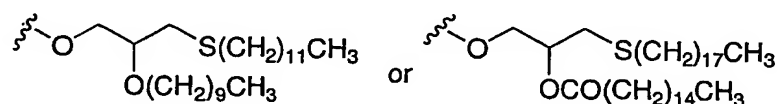


- 5 or a pharmaceutically acceptable salt thereof;
 wherein R¹ is C₁₋₄ alkyl, wherein alkyl is unsubstituted or substituted with hydroxy,
 amino, C₁₋₄ alkoxy, C₁₋₄ alkylthio, or one to three fluorine atoms;
 R² is amino, fluorine, hydroxy, mercapto, C₁₋₄ alkoxy, or C₁₋₁₀ alkylcarbonyloxy;
 R³ and R⁴ are each independently selected from the group consisting of hydrogen,
 10 cyano, azido, halogen, hydroxy, mercapto, amino, C₁₋₄ alkoxy, C₁₋₁₀
 alkylcarbonyloxy, C₂₋₄ alkenyl, C₂₋₄ alkynyl, and C₁₋₄ alkyl, wherein alkyl is
 unsubstituted or substituted with hydroxy, amino, C₁₋₄ alkoxy, C₁₋₄ alkylthio, or one
 to three fluorine atoms;
 R⁵ is hydrogen, C₁₋₁₀ alkylcarbonyl, P₃O₉H₄, P₂O₆H₃, or P(O)R¹³R¹⁴;
 15 R⁶ and R⁷ are each independently hydrogen, methyl, hydroxymethyl, or fluoromethyl;
 R⁸ is hydrogen, C₁₋₄ alkyl, C₂₋₄ alkynyl, halogen, cyano, carboxy, C₁₋₄
 alkyloxycarbonyl, azido, amino, C₁₋₄ alkylamino, di(C₁₋₄ alkyl)amino, hydroxy,
 C₁₋₆ alkoxy, C₁₋₆ alkylthio, C₁₋₆ alkylsulfonyl, or (C₁₋₄ alkyl)₀₋₂ aminomethyl;
 R⁹ is hydrogen, cyano, nitro, C₁₋₃ alkyl, NHCONH₂, CONR¹²R¹², CSNR¹²R¹²,
 20 COOR¹², C(=NH)NH₂, hydroxy, C₁₋₃ alkoxy, amino, C₁₋₄ alkylamino, di(C₁₋₄
 alkyl)amino, halogen, (1,3-oxazol-2-yl), (1,3-thiazol-2-yl), or (imidazol-2-yl); wherein
 alkyl is unsubstituted or substituted with one to three groups independently selected
 from halogen, amino, hydroxy, carboxy, and C₁₋₃ alkoxy;
 R¹⁰ and R¹¹ are each independently hydrogen, hydroxy, halogen, C₁₋₄ alkoxy,
 25 amino, C₁₋₄ alkylamino, di(C₁₋₄ alkyl)amino, C₃₋₆ cycloalkylamino, di(C₃₋₆

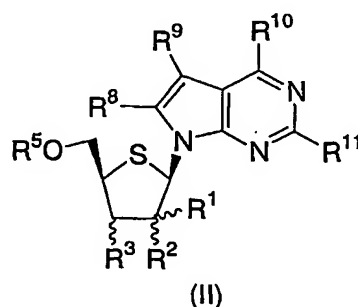
cycloalkyl)amino, or C₄₋₆ cycloheteroalkyl, unsubstituted or substituted with one to two groups independently selected from halogen, hydroxy, amino, C₁₋₄ alkyl, and C₁₋₄ alkoxy;

each R¹² is independently hydrogen or C₁₋₆ alkyl; and

- 5 R¹³ and R¹⁴ are each independently hydroxy, OCH₂CH₂SC(=O)C₁₋₄ alkyl, OCH₂O(C=O)OC₁₋₄ alkyl, NHCHMeCO₂Me, OCH(C₁₋₄ alkyl)O(C=O)C₁₋₄ alkyl,



2. The compound of Claim 1 of the structural formula II:



or a pharmaceutically acceptable salt thereof;

wherein

- R¹ is C₁₋₃ alkyl, wherein alkyl is unsubstituted or substituted with hydroxy, amino,
 15 C₁₋₃ alkoxy, C₁₋₃ alkylthio, or one to three fluorine atoms;
 R² is hydroxy, fluoro, C₁₋₃ alkoxy, or C₁₋₈ alkylcarbonyloxy;
 R³ is hydrogen, halogen, hydroxy, amino, C₁₋₃ alkoxy, or C₁₋₈ alkylcarbonyloxy;
 R⁵ is hydrogen, C₁₋₈ alkylcarbonyl, P₃O₉H₄, P₂O₆H₃, or PO₃H₂;
 R⁸ is hydrogen, amino, or C₁₋₄ alkylamino;
 20 R⁹ is hydrogen, cyano, methyl, halogen, or CONH₂; and
 R¹⁰ and R¹¹ are each independently hydrogen, halogen, hydroxy, amino,
 C₁₋₄ alkylamino, di(C₁₋₄ alkyl)amino, or C₃₋₆ cycloalkylamino.

3. The compound of Claim 2 wherein
R¹ is methyl, fluoromethyl, hydroxymethyl, difluoromethyl, trifluoromethyl, or aminomethyl;
R² is hydroxy, fluoro, or methoxy;
5 R³ is hydrogen, fluoro, hydroxy, amino, or methoxy;
R⁵ is hydrogen or P₃O₉H₄;
R⁸ is hydrogen or amino;
R⁹ is hydrogen, cyano, methyl, halogen, or CONH₂; and
R¹⁰ and R¹¹ are each independently hydrogen, fluoro, hydroxy, or amino.
10
4. The compound of Claim 3 which is
4-amino-7-(2-*C*-methyl-4-thio-β-*D*-ribofuranosyl)-7*H*-pyrrolo[2,3-*d*]pyrimidine or
2-amino-7-(2-*C*-methyl-4-thio-β-*D*-ribofuranosyl)-7*H*-pyrrolo[2,3-*d*]pyrimidin-
4(3*H*)-one;
15 and the corresponding 5'-triphosphates;
or a pharmaceutically acceptable salt thereof.
5. A pharmaceutical composition comprising a compound of
Claim 1 and a pharmaceutically acceptable carrier.
20
6. The pharmaceutical composition of Claim 5 useful for
inhibiting RNA-dependent RNA viral polymerase, inhibiting RNA-dependent RNA
replication, and/or treating RNA-dependent RNA viral infection.
- 25 7. The pharmaceutical composition of Claim 6 wherein said
RNA-dependent RNA viral polymerase is HCV NS5B polymerase, said RNA-
dependent RNA viral replication is HCV replication, and said RNA-dependent RNA
viral infection is HCV infection.
- 30 8. A method of inhibiting RNA-dependent RNA viral polymerase
and/or inhibiting RNA-dependent RNA viral replication comprising administering to
a mammal in need of such inhibition an effective amount of a compound according to
Claim 1.

9. The method of Claim 8 wherein said RNA-dependent RNA viral polymerase is HCV NS5B polymerase and said RNA-dependent RNA viral replication is HCV viral replication.

5 10. A method of treating RNA-dependent RNA viral infection comprising administering to a mammal in need of such treatment an effective amount of a compound according to Claim 1.

10 11. The method of Claim 10 wherein said RNA-dependent RNA viral infection is HCV infection.

12. The method of Claim 11 in combination with a therapeutically effective amount of another agent active against HCV.

15 13. The method of Claim 12 wherein said agent active against HCV is ribavirin; levovirin; thymosin alpha-1; interferon- β ; an inhibitor of NS3 serine protease; an inhibitor of inosine monophosphate dehydrogenase; interferon- α or pegylated interferon- α , alone or in combination with ribavirin or levovirin.

20 14. The method of Claim 13 wherein said agent active against HCV is interferon- α or pegylated interferon- α , alone or in combination with ribavirin.

25 15. Use of a compound of Claim 1 for the inhibition of RNA-dependent RNA viral polymerase or inhibition of RNA-dependent RNA viral replication in a mammal.

16. Use of a compound of Claim 1 for treatment of RNA-dependent RNA viral infection in a mammal.

30 17. The use of Claim 16 wherein said RNA-dependent RNA viral infection is hepatitis C infection.

35 18. Use of a compound of Claim 1 in the manufacture of a medicament for the inhibition of RNA-dependent RNA viral polymerase or the inhibition of RNA-dependent RNA viral replication in a mammal.

19. Use of a compound of Claim 1 in the manufacture of a medicament for treatment of RNA-dependent RNA viral infection in a mammal.

20. The use of Claim 19 wherein said RNA-dependent RNA viral
5 infection is hepatitis C infection.